IN THE CLAIMS

1. - 10. (canceled)

11. (withdrawn) Tooling for carrying out the process of claim 1, characterized by comprising metal beams (14, 18) having a rough surface (15, 20) adapted to be applied to the second subcomponent (2).

12. (withdrawn) Tooling according to claim 11, characterized in tha the beams (14) are L-shaped beams.

13. (withdrawn) tooling according to claim 11. characterized in that the beams (18) are L-shaped beams.

14. (withdrawn) Tooling according to claim 11, characterized in that the rough surface (16, 20) of the beams (14, 18) is a machined surface.

15. (withdrawn) Tooling according to claim 11, characterized in that the rough surface 915, 20) of the beams (14, 18) is a surface having an attached friction enhancer selected from sandpaper and the like.

16. - 20. (canceled)

21. (withdrawn) Tooling used in the manufacture of monolithic composite structures by means of assembling at least a first and a second precured subcomponents of composite material, or a first precured subcomponent and a second uncured subcomponent of composite material, the tooling being used to be attached to the second subcomponent to promote enough friction to achieve a common expansion of the tooling and the second subcomponent when subjected to a heating cycle, characterized by comprising metal beams (14, 18) having a rough surface (16, 20) adapted to be applied to the second subcomponent (2).

22. (currently amended) Tooling according to claim 21, characterized in that the beams (14) are L-shaped beams.

23. (currently amended and withdrawn) Tooling according to claim 21, characterized in that the beams (18)9 are L-shaped beams.

24. (currently amended and withdrawn) Tooling according to claim 21, characterized in that the rough surface (16, 20) of the beams (14, 18) is a machined surface.

25. (currently amended and withdrawn) Tooling according to claim21, characterized in that the rough surface (16, 20) of the beams (14, 18) is a surface having an attached friction enhance selected from sandpaper and the like.

26. (new) A process for assembling a monolithic composite structure comprising the steps of:

a) providing at least a first subcomponent (1) of a first composite material;

b) providing at least a second subcomponent (2) of a second composite material;

c) assembling the first and second subcomponents into an assembly characterized by:

c1) attaching an expansion compensating tooling (14, 18) to the second subcomponent, a surface (16,20) of the tooling making contact with the second subcomponent and being rough enough to promote friction in an amount effective to achieve common thermal expansion of the tooling and the second subcomponent when subjected to an autoclave cycle;

c2) inserting between the first and second subcomponents a layer of uncured structural adhesive; and

c3) bonding the second subcomponent with the tooling on the first subcomponent with the uncured structural adhesive;

d) covering the assembly with a vacuum bag;

e) performing the autoclave cycle on the assembly for curing the uncured structural adhesive under high temperature and pressure conditions; and

f) withdrawing the assembly and removing the tooling,

whereby to obtain the monolithic composite structure comprising the first and second subcomponents bonded by the cured structural adhesive.

27. (new) Process according to claim 26, characterized in that subcomponents (1 and 2) are precured.

28. (new) Process according to claim 26, characterized in that the first subcomponent (1) is precured and the second subcomponent (2) is provided uncured and cured during the autoclave cycle.

29. (new) Process according to claim 26, characterized in that the first subcomponent (1) is an aircraft skin and the second subcomponent is a stiffener therefor.

30. (new) Process according to claim 26, characterized in that the expansion compensating tooling consists of L-shaped metal beams (14) adapted to a geometry of the second subcomponent (2).

31. (new) Process according to claim 26, characterized in that the expansion compensating tooling consists of I-shaped metal beams (18) adapted to a geometry of the second subcomponent (2).

32. (new) Process according to claim 26, characterized in that the rough surface (16, 20) is a machined surface.

33. (new) Process according to claim 26, characterized in that the rough surface (16, 20) is sandpaper or another friction enhancer attached to the tooling.

34. (new) Process according to claim 26, wherein the first and second composite materials are one of the same as or different from each other and optionally characterized by including reinforcement graphite or glass fibre with a thermoset or thermoplastic matrix.

35. (new) Process according to claim 26, characterized in that the pressure and temperature are selected, without limitation, within ranges of pressures and temperatures recommended by manufacturers of at least components of the composite materials and adhesive.

36. (new) Tooling used in the manufacture of monolithic composite structures by means of assembling at least a first and a second precured subcomponents of composite material, or a first precured subcomponent and a second uncured subcomponent of composite material, the tooling adapted to be attached to the second subcomponent and characterized by comprising metal beams (14, 18) having a rough surface (16, 20) to promote, with the help of the vacuum bag pressure, enough friction to achieve a common expansion of the tooling and the second subcomponent when subjected to a heating cycle.

37. (new) Tooling according to claim 36, characterized in that the beams (14) are L-shaped beams.

38. (new) Tooling according to claim 36, characterized in that the beams (18) are I-shaped beams.

39. (new) Tooling according to claim 36, characterized in that the rough surface (16, 20) of the beams (14, 18) is a machined surface.

40. (new) Tooling according to claim 36, characterized in that the rough surface (16, 20) of the beams (14, 18) is a surface having an attached friction enhancer selected from sandpaper and the like.